Illinois
Environmental
Protection Agency

Public Water Supplies
2200 Churchill Road
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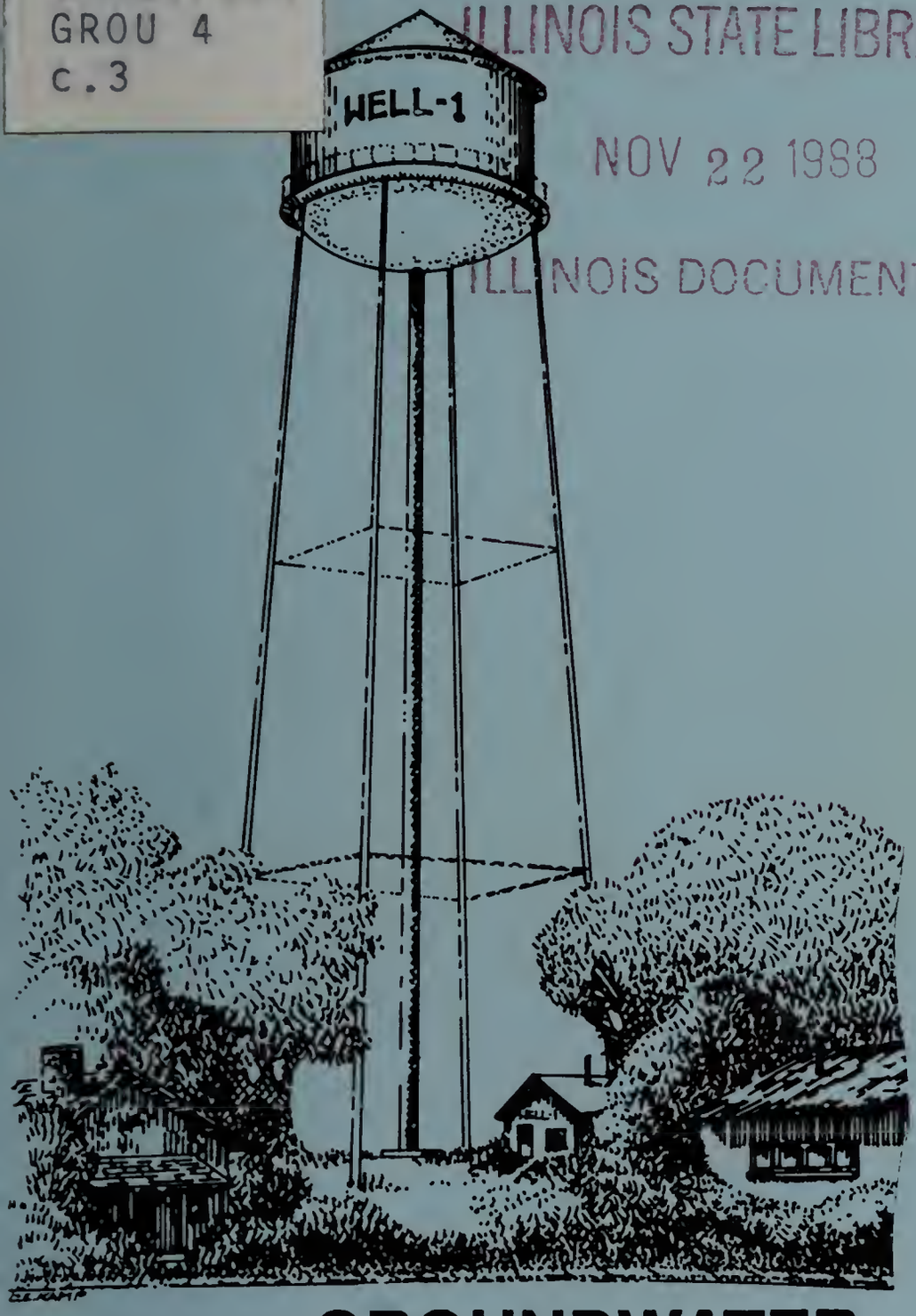

GROUNDWATER QUALITY PROTECTION

Community Water Supply Planning

Groundwater is a vital resource in Illinois serving more than five million people in over 1,200 communities. Approximately 74 percent of the public water supply systems in Illinois use groundwater as a supply source. Groundwater is an essential water supply for many Illinois consumers. Total withdrawal of groundwater is about one billion gallons per day (bgd).

Changing Perspectives on Groundwater Protection

In recent years, there has been a marked shift in the perceived definition of an "unsafe" water supply. Today's concerns focus on protecting the consumer from exposure to low levels of a wide variety of hazardous chemicals such as volatile organic chemicals (VOCs), of which thousands are in daily use. In many cases, the health effects of such exposures are delayed and uncertain. These chemicals are often colorless, odorless, and tasteless - even when present in water at harmful levels.

The IEPA has just completed a statewide monitoring program for VOCs in public water supply wells. About six percent of Illinois' community wells have been contaminated by VOCs which include organic solvents, degreasers and petroleum by-products. Quite often, the source of contamination is located within 1,000 feet of the water well.

The Groundwater Protection Act of 1987 (P.A. 85-0863)

The Act responded to threats of groundwater contamination and set a groundwater protection policy for Illinois. It provides an opportunity for local governments to become involved in protecting their community water wells. The following programs are now underway and information is available to assist local governments in exploring their options:

Agency Well Site Surveys and Reporting;

County/Municipal Needs Assessments;

Expansion of Community Water Well Protection Zones to 1000 Feet.

MAXIMUM SETBACK ZONE

Counties and municipalities are authorized to establish a maximum setback zone, up to 1,000 feet, around the well. The IEPA has developed rules to determine the lateral area of influence created by a well pumping under normal operating conditions. These rules (Subtitle F, Part 671) have been adopted and are available from the Agency. The boundary determined by the pump test procedures is used to help shape the maximum setback zone. No new potential primary sources may locate within the maximum zone. Additional requirements or controls may apply to existing sources.

To pursue a maximum setback zone, county or municipal officials should contact the Agency to receive the necessary forms and procedures. The following information will be necessary to complete the application:

* geological logs and well construction details;

* aquifer test data;

* description of the pump test procedure or the estimation technique selected to determine the lateral area of influence.

The county or municipality is required to adopt an ordinance for a maximum setback zone after the Agency confirms the adequacy of the proposal.

WELL SITE SURVEYS

IEPA is required to conduct well site surveys for each community water well in the State. The surveys provide counties and municipalities with the basic information needed to understand their water supply and initiate a local groundwater protection program.

The well site survey covers a radial area of 1,000 feet (72 acres) around each well. The survey report is composed of a narrative summary, graphics and technical appendices. Geographic features and potential sources, potential routes, and other activities which may threaten a water supply are located on an aerial photograph. The report describes and inventories these activities.

Counties and communities will receive a report describing all wells in their water supply system. The report will include the following information:

* facility description and geologic profile of well sites;
* groundwater sampling and monitoring history;
* well site survey results;
* recommendations for future protection efforts.

GROUNDWATER PROTECTION NEEDS ASSESSMENT

The Act provides supplementary authority for counties and municipalities to conduct a detailed groundwater protection needs assessment.

The major components of the assessment include:

* Delineation of the recharge area of the well outside the existing setback zone;

* Identification and location of potential routes and sources within the recharge area;

* Evaluation of the hazard associated with identified potential primary and secondary sources and potential routes;

* Evaluation of existing local controls for groundwater protection;

* Evaluation of the adequacy of the minimum or maximum setback zones;

* Identification of contingency measures that could be implemented in the event of contamination of the existing water supply.

The needs assessment allows the community the opportunity to build upon the foundation laid by the State. The needs assessment considers not only the setback zone but also the boundary of the recharge area for a specific well.

For information or technical assistance contact:

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